

CLAIMS

1. A system for sealing a cyclone separator leg which joins the lower end of the leg of a secondary cyclone and the leg of a primary cyclone to form a single primary and secondary cyclone leg complex where the solids collected by both cyclones are combined, characterized by the said combined solids being simultaneously discharged from said single leg by means of a single leg termination of the long-radius-curve type.

2. A system according to Claim 1, characterized in that the long-radius curve termination is immersed in a fluidized bed of particles.

3. A system according to Claim 1, characterized in that the long-radius curve of the single leg has a ratio of radius/diameter within the band from 1.0 to 3.0.

4. A system according to Claim 1, characterized in that said termination is constructed from a succession of straight tube sections in an arcuate array.

5. A system according to Claim 4, characterized in that the total angle subtended by the succession of straight tube sections at the centre of curvature of the long radius curve directs the flow direction of the descending mass flow of dense phase solids into a plane orthogonal to the ascending gaseous flow.

6. A system according to claim 1, characterized in that, with respect to the centre line of the inlet to the curved termination, the junction of the leg of the primary cyclone and the leg of the secondary cyclone lies on the side opposite the discharge end of the curve, and higher than the discharge end by a distance in the range from 3.5 to 5.5 times the diameter of the leg of the primary cyclone.